

# THE PLOTTER

CLACKAMAS COUNTY AREA T/S  
USERS GROUP  
NEWS LETTER

VOLUME 5

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MAY 1987

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## MEETING

The MAY meeting will be:

on: FRI., MAY 8, 1987

at: 7:30 P.M.

in: COMMUNITY ROOM

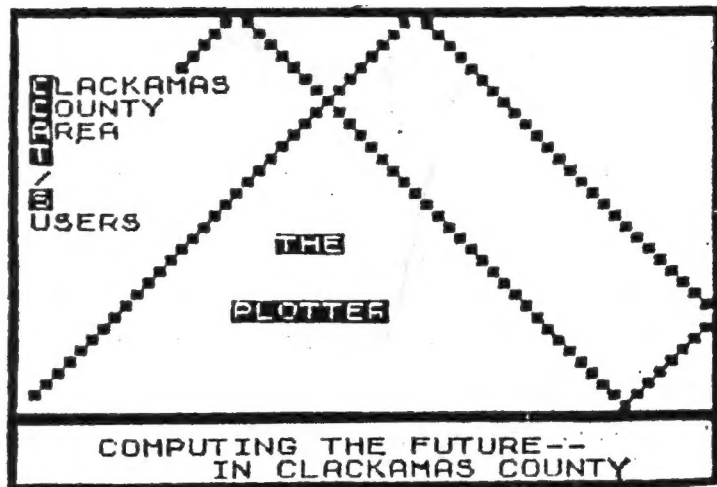
FAR WEST FEDERAL S & L

OREGON CITY SHOPPING CENTER

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## Chairman's Corner

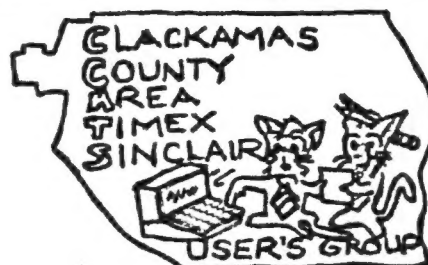
We had our first meeting in the new topical format. Dennis Jurries had a very nice demonstration and explanation of right justification of numbers. Judging from the feedback I received, this should prove to put a little spark into our meetings.

The flood of new products for our little machines is continuing, a very good sign!

The MC-SIG is bi-weekly for the next few sessions. It's still not too late to join. See the PATS area for details.

During the past month, four of our members acquired MS-DOS computers. It is comforting to note that none of them have any thoughts of abandoning the TS. Guess that gives us some idea of the power still in the trusty ole TS!

It occurs to me that with all the topics I touch on that I should rename this column to "Chairman's Ramblings." Well, I'll think about that one and quit rambling for this month. See you at the meeting.



# SECRETARY'S SECRETS

by Jack Armstrong

## FROM THE EDITOR'S DESK

The April meeting was called to order at 8:00 p.m. by Chairman Syd Wyncoop with 20 members in attendance. Rod noted that Ken Lutes was now a paid-up member and that James Edwards, our librarian updates the library about every two weeks. Rod Gowen and Tim Woods are bringing back a report on the Computer Fest. Under Old Business, Merlin was enthusiastic about our monthly presentation forum. Merlin commented also that he had very little further to report on Membership Committee progress. It was decided that the month of July will be a bye for us. This is vacation for most of us in CCAT/S. Duane Hewitt discussed Ham Operator Magazine QZX and discussion followed with comments from D. Lewis, Syd Wyncoop and Mike Carver. The consensus was that there is a strong interest in our group since several members are involved in Ham Radio and related issues. Rod brought a demo machine: the new Amstrad "Word Processor". It is a full-blown computer system with CP/M operation and comes as a package including monitor/disk and printer. Syd noted that B. Dalton Books has several good books related to our favorite computers. Dick Wagner commented on the slight alteration of the Plotter format to allow wider margins on the binding edge of the Newsletter which will enable us to punch holes for insertion in ring binders without punching out some vital code. Lynn Stranski gave a report on the Machine Code Group and its progress. They are now meeting every other Saturday so as to make faster progress. Dick Wagner asked if anyone had info on SCR's and if it could be determined how they are drawn. A discussion followed. Tim Woods posed a query about EXPERT programs and what they were. In the discussion that followed, Syd and Mike Carver explained that it's a program designed to do a task with operator response to the program and the program making a determination based on the responses given. Dennis gave his talk on number alignment. Meeting adjourned at 9:45.

The April meeting with our newest program feature started off with a burst of member interest as Dennis Jurries stepped thru a BASIC routine to screen print a column of numbers, right justified, and including decimal point and 2 places. Zeros were added after a decimal point without them as input.

The use of numeric strings permits the use of LENGTH of strings in the calculations. Similar sub-routines are available in books and magazines based on strings. These seem to vary as to where the LENGTH of the string is considered to begin.

The following subroutine was the basis of Dennis's discussion:

```
100 LET f=6
110 PRINT AT 20,0; "Enter the
amount."
120 INPUT a$
130 IF a$="0" THEN LET a$="0.00"
140 FOR i= LEN a$-1 TO 0 STEP -1
150 LET b$=a$( TO LEN a$-i)
160 LET c$=a$(LEN a$-1 TO LEN a$)
170 IF c$="." AND i<>2 THEN LET
d$=a$(LEN a$-i TO LEN a$): LET d=
100*VAL d$: LET d=INT (d+.5)/100:
LET a$=b$+STR$ d: GOTO 200
180NEXT i
200 LET c$=a$( LEN a$-2 TO LEN
a$-2): IF c$<>"." THEN LET
a$=a$+"0": GOTO 200
210 IF a$( TO 1)="." THEN LET
a$="0+a$
220 PRINT AT f, 20- LEN a$;a$
230 LET f=f+1
240 GOTO 110
```

As usual, members were willing to suggest further additions to the program. This prompts me to also suggest that some members will be willing to add some more sub-routines, such as be able to add to data as in a monthly statement and not lose saved data, run column totals, input a series of numbers for multiple column display, print to a large printer, add a way to filter out improper data, add column headings, and change any of the data at any time. Thus, a series of

subroutines could be developed by different members and be presented at various meetings. The end result would be a useful program for recording groups of numbers in column format, and saving the data.

The original suggestion was for 15 minute discussions on BASIC programming enhancement. It is obvious that when it gets interesting the discussion consumes more time than this. What an opportunity to brush up on programming and participate in lively discussions!

Note: The Editor has input this program to see how effective it is. I suggest that others try it and see if their results are similar to mine. I found that an integer number would be accepted only if it ended with a decimal point, and then it was printed with 2 zeros, so the program does add the zeros. A decimal point is not automatically inserted. A decimal number must not have more than 2 places after the decimal point, and a zero or some other integer must precede the decimal point. This means that a number like 892 will not be accepted but 892. will, with 2 zeros being added automatically. A number like .32 will not be accepted but 0.32 will, and a number like 892.431 or 0.431 will not be accepted. If the input is just a zero then 0.00 is displayed.

## MAY MEETING SPECIAL FEATURE

Two CCAT/S members, Rod Gowen and Tim Woods, will be reviewing this year's Computerfest held at Indianapolis. As both of these members had booths to man, they had many opportunities to talk to dealers and users, as well as some time to look over the displays and take in a few seminars. This is your chance to get the latest information of the Sinclair world, plus programs plus hardware plus writers.

This feature will preempt the discussion on using a large printer with VUCALC. This discussion will be held at a future meeting.

## REACTION TIME

This short program will tell you how long it takes for you to press the letter 'a' after 'NOW' flashes some place on the screen.

```
100 PRINT "How many seconds will
you take to press the letter 'a'
after 'NOW' appears?"
110 FOR C= 1 TO RND*400: NEXT C
120 PRINT AT RND*16+5, RND*25;
'NOW'
200 POKE 23672,0: POKE 23673,0
210 IF INKEY$ = "" THEN GOTO 210
220 IF INKEY$ <> "a" THEN GOTO 220
225 IF INKEY$ = "a" THEN GOTO 230
230 PRINT AT 5,5; (PEEK 23672 +
256* PEEK 23673)/60
240 PAUSE 100: CLS: GOTO 110
```

Try this one and you will see how many FRAMES there are in 1000 loops. I get 269 FRAMES.

```
10 POKE 23672,0: POKE 23673,0
20 FOR T = 1 TO 1000: NEXT T
30 PRINT PEEK 23672 + 256*PEEK
23673
```

Change line 30 to divide the result by 60, as in line 230 and you will get 4.4833 seconds, or just divide the 269 by 60. Line 10 sets the FRAMES counter to 0 and line 30 reads the number of FRAMES in 1000 loops. The divide by 60 changes the count to seconds as there are 60 FRAMES in a second. FRAMES are sent to the monitor by the computer at the rate of 60 per second. There are 2 sets of raster lines on the monitor screen, the first set tracing every other line and the second tracing in between. While you do not see the action, the first set is 262 lines and the second set is 262 lines. The time for one set of lines is 1/60 second.

## BIOFEEDBACK MONITOR

Dick Wagner

I hope to have a working prototype to demonstrate the Radio Shack BIOFEEDBACK MONITOR adapted to my TS 1000 computer. Come and see a graphic display of your level of nervous tension!

## SPEED UP BASIC

This concept was explained in a Computer Astronomy Network newsletter, courtesy of Paul Bingham of Pleasantrees.

The use of logicals can speed up some parts of BASIC programs because the computer does not need to sort out a lot of statements, just find a '1' or '0'. Logical expressions have 2 conditions, true or false, which may be considered '1' or '0'.

A logical assignment statement is usually '=', '<=', '<', '<=', and '>=', as LET B = (y <= 20) with the logical statement within brackets. This is interpreted as, if y is equal or less than 20 then B will be considered to have the value of '1'. Conversely, B will have the value of '0' if y is greater than 20.

Arithmetic operators can be used with this system as LET B = 10 \* (y <= 20) + 50. This logical statement produces the results of B = 60 if the expression is true (10 \* 1 + 50), and B = 50 if false (10 \* 0 + 50).

A good place to use logical expressions is in IF -- THEN statement substitution:

```
100 IF A = 1 THEN LET G = 20
110 IF A = 2 THEN LET G = 30
```

```
150 IF A = 6 THEN LET G = 70
```

These lines may be written as a single line as:

```
100 LET G = 20*(A = 1) + 30*(A = 2)
+ 40*(A = 3) + 50*(A = 4) + 60*(A = 5)
+ 70*(A = 6)
```

as G can have only one of 6 values, and only one of the 6 can have a value of 'true'. In this way G is assigned an integer between 20 and 70.

This system has merit in GOTO statements often used in menu choices, as:

```
600 IF D<1 OR D>4 THEN GOTO 600
610 IF D = 1 THEN GOTO 6500
620 IF D = 2 THEN GOTO 6700
630 IF D = 3 THEN GOTO 6800
640 IF D = 4 THEN GOTO 6900
```

Substitution may be:

```
600 GOTO 600*(D < 1) + 600*(D > 4) +
6500*(D = 1) + 6700*(D = 2) + 6800
*(D = 3) + 6900*(D = 4)
```

Logical operators produce '1' or '2', so you may recall that multiplying by '1' returns the value multiplied '1', and multiplying by '0' produces '0'. Thus in the last statement if D = 2 then the other Ds must be '0'. Therefore 6700\*(D = 2) is the same as 6700\*1 = 6700 and all other values will be '0'.

Using logical operators produces speedier operations than IF -- THEN statements plus there is some saving in memory.

As logical operators sometimes becomes confusing it may be easier to first work out program lines with IF -- THEN and after proving the program, changing the IF -- THENs over to logical operators.

## CCAT/S SIG

A "thank you" to Syd Wyncoop for the fine instruction work on machine language. It is too bad that more members have not pursued this interesting method of programming.

Even tho this information is available in many books and magazines it seems that an instructor and black board sure helps to wade thru the subject. It is surprising how often students jump ahead of the immediate subject with questions that would ultimately be answered in future instruction. Book instruction just doesn't offer this student participation. Two classes in April plus classes on May 9, 23, and June 13 should get members well on the way to doing some actual programming.

## BYTE POWER MAGAZINE

The electronic magazine, BYTE POWER, is now issuing a small supplement with the taped magazine. As not everyone has a printer, the Editors decided that a higher quality product was preferable to a home made supplement. As each magazine contains some text plus program instructions, a common complaint was that it was difficult to load in a tape each time an instruction was required. This decision should make the magazine more popular.



## **BITS & BYTES**

by: ROD GOWEN

Heard any TS related news lately? Did you get any information in the mail from other users, user groups, or vendors that may be of interest to our readers? If so, why not share it with us? We need all of the help that we can get. Please send any info that you might have to: Rod Gowen, C/O CCAT/S, 1419 1/2 7th Street, Oregon City, OR 97045, or, phone in at: 503/655-7484, 10 AM-10 PM weekdays. I know that the entire user group will appreciate it!

FEST! FEST! FEST! FEST! FEST! FEST! It's almost here! The biggest event of the year for all of us loyal T/S fanatics! The 1987 Midwest T/S Computer Fest! If you are going, we will see you there, as yours truly along with his wife and TIM WOODS of TDM and his wife are going to be in attendance. If you are not going, then we will miss you at this great event! Maybe you will be able to make it to next years' event. The Fest is being held in the HOLIDAY INN HOLIDOME NORTH in INDIANNAPOLIS, INDIANA on the 2nd & 3rd of MAY. At our last check there were over 27 vendors and/or user groups with reserved table space and more than 400 ticket reservations! BIGGER AND BETTER THAN LAST YEAR! Rumors are everywhere of many new and innovative products that will be introduced at the show. We are sure that there will a LOT of good buys on existing stocks. ZEBRA SYSTEMS has, at last report, reserved 6 tables! They say that they are renting a truck to bring all of the things that they want to show and sell! Tim and I plan to give a report on our stay at the Fest at the May CCAT/S meeting for all of those who could not make it. We have heard that there will be a few people there with Video Cameras and I plan to see if I can get a copy of some of the taped action. I will then make it available for viewing at a later meeting.

RMG BBS-YOUR BBS!-is not getting much action! A few regular callers keep it alive, but they need the support of many more people, locals as well as across the country to make it worthwhile to keep it going. The following is the time and number for the RMG BBS:

(503) 656-8072

\*NEW HOURS: 8 PM TILL 10 AM PT.

Hopefully, with the new, earlier hour, more people will have a chance to call. As soon as possible, RMG plans to have a full on-line catalog of their products. You can use your VISA or MASTER-CARD for your orders! As this is your local BBS, why not use it?

LARKEN ELECTRONICS-has finally released the new 2068 Disk I/F and RMG Enterprises will be selling it for the same price as Larken. RMG will be demoing the system at the Computer Fest for Larken. There will be 4 versions of the Eprom DOS to operate different disk controllers. One for Larken, one for Aerco, one for Ramex and one for Oliger controller. All that is needed is to purchase the cartridge board with the Eprom on it and you will be compatible with the other systems. In simple terms, if you use an AERCO I/F and I use a RAMEX I/F and we each get a Larken cartridge board with the correct Eprom on it, then we both format disks with the Larken DOS installed, we can exchange, read and write to each others' disks. You also get 10 extended Basic commands in the Eprom. They are called EX-BASIC and include such goodies as a CIRCLE/FILL command which does an almost instant FILL, a WINDOW command, a DRAW command that does a BOX DRAW and a command for instant changes of PAPER and INK. You can also do 1 AUTOSTART program on each disk with a RAND USR call. It is similar to the NMI Quick Save feature that you get on the Larken I/F board.

We'll have more BITS & BYTES for you next time! Until then,  
--KEEP ON T/Sing!!!

## PROTECTING YOUR SOFTWARE

by Jonathan Wallace  
from: ZX WORLD NEWS BULLITEN  
GREATER NEW YORK USERES

If you write programs and sell them, or if you wish to do so, there are several things you should know about protecting your rights.

Under the copyright law of the United States, it is very simple for you to attain a basic degree of protection. Simply put a copyright notice in your program, so that it prints out on the screen as your program begins to run. The notice should contain your name, the year and the copyright symbol of the word "Copyright" as follows:

"Copyright 1983 by Jonathan D. Wallace". This simple act alone means that anyone who then takes your program without permission is violating the law.

Before you can bring a lawsuit against a copyright infringement you must file a copy of your program with the United States copyright office and pay \$10.00 filing fee.

You should remember, however that copy right protects your entire program but not the parts. I know this sounds paradoxical, but here is how the copyright works: If someone else runs off copies of your program and sells them, he is violating the law. If however, he merely takes a key subroutine, and incorporates it in a program of his own, this is not a copyright violation.

If you are selling or licensing your program to a few people, with whom you are dealing personally, you can protect your subroutines by asking each one to sign a "nondisclosure" agreement requiring them to keep your program secret.

Continued on page 2

## 1000 PROGRAM LOAN STATUS

by: DICK WAGNER

Try this program to calculate the total interest paid on a loan. Wait for the questions to show after LOADING.

Commonly used formulas are used. See line 280 for the interest paid and line 300 for the unpaid principal balance. I don't have a record of program source.

```
1 REM *****
*
60 GOSUB 1000
100 PRINT TAB (9); "LOAN STATUS"
"
110 PRINT
120 PRINT ,,, "THIS PROGRAM WILL COMPUTE THE "
130 PRINT "APPROXIMATE INTEREST PAID ON A"
135 PRINT "LOAN FOR ANY GIVEN PERIOD, AND"
140 PRINT "SUPPLY THE APPROXIMATE PRINCIPAL"
145 PRINT "BALANCE REMAINING."
146 PRINT ,,, "HIT ANY KEY TO CONTINUE"
147 PAUSE 40000
148 CLS
150 PRINT
160 PRINT "WHAT WAS THE ORIGINAL TOTAL NUMBER OF PAYMENTS?"
165 INPUT N
166 PRINT AT 3,25;N
170 PRINT ,,
180 PRINT "WHAT IS THE PAYMENT NUMBER OF THE FIRST PAYMENT IN THE SUBJECT PERIOD?"
185 INPUT N1
186 PRINT AT 8,25;N1
190 LET N1=N1-1
200 PRINT ,,
210 PRINT "WHAT IS THE PAYMENT NUMBER OF THE LAST PAYMENT IN THE SUBJECT PERIOD?"
215 INPUT N2
216 PRINT AT 13,25;N2
220 PRINT ,,
230 PRINT "PLEASE ENTER THE NOMINAL MONTHLY PAYMENT AMOUNT."
235 INPUT M
236 PRINT AT 17,25;M
240 PRINT
```

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## LARGE PRINTERS

Dick Wagner

Large printers have methods for setting TOP OF FORM (page length) and FORM FEED (FF). The manual will explain these settings. In general, once a page length is established for your printer the operator can cause the printer to advance to the top of the next sheet of paper (the perforation line). Thus, once a printer is set up for a specific sheet length (as 11 inches) TOP OF FORM means the first print line position will be duplicated for each sheet of paper.

On my printer, positioning the top of the paper even with the tear bar and then pressing the TOP OF FORM button will establish the relationship for the center of the first print line of each sheet at 1/2 inch. The usual maximum number of lines is 60 so at 6 lines/inch this is 10 inches and the length of print space is 10+1 character or about 10.1 inches. This allows another 1/2 inch to the bottom of the sheet. Thus setting TOP OF FORM with the first line spaced 1/2 inch will allow a 3 line space top and bottom.

With the PERFORATION SKIP function, an overflow of lines beyond 60 will automatically start printing on the next sheet 1/2 inch down. This can be canceled so the printing may stop after the last line.

This information is essential when setting up the plan for positioning on a sheet of paper so multiple pages will look the same. For single pages such as a letter, first position the sheet at the reference point that gives a known space to the first print line and then advance the paper the additional number of desired lines. If a duplicate of the first page is required then set the TOP OF FORM at the first print line and the next page will be identically positioned.

When using a word processor there may be some duplicate commands so either the printer switches or the word processor command must be canceled. For instance, if your

printer has automatic line feed that can be canceled, then cancel it or the command in the word processor because failure to do so will give a double line space. Likewise as with MSCRIPT where the number of lines per page to be printed can be defined and the maximum number of lines per page is established, the SKIP LINE PERFORATIONS can be canceled and controlled from the word processor.

The editing of our newsletter, THE PLOTTER, forces the establishing of certain formats of a printed page. Setting the perforated tear line at the printer tear bar position gives just under 1/2 inch clear space at the top of the sheet which allows for a slight trimming to 3/8 inch. Allowing for a maximum of 60 lines print length and 6 unprinted lines, printing on the second page starts 1/2 inch down also. I prefer this control as I may have a short article or program that can be put on the same sheet. For this use the FORM FEED must be off.

## HARDWARE AND OTHER THINGS

Members who missed the April meeting should know that RMG Enterprises is expanding computer lines by the addition of a TS 1000 clone with more features than the 1000, the Amstrad word processor

(but much more) that Sears handled at one time, and the Blue Chip computer with big computer features about equal to IBM PC.

Rod is also handling various styles of monitors, TVs, disk drives, large printers, and various interfaces, as well as programs for the TS 1000, 1500, 2068, and QL computers. Did you know that there are 3 CCAT/S members producing programs that are being sold by Rod?

Continued from page 6

250 PRINT "PLEASE ENTER THE AN  
NUAL PERCENT-AGE RATE."

255 INPUT R1

256 PRINT AT 21,25;R1

257 PAUSE 400

258 CLS

260 LET R=R1/1200

270 PRINT ,,,,

275 SLOW

280 LET I=M\*(N2-N1-(((1+R)\*\*(N2-N)))/R)+(((1+R)\*\*(N1-N))/R))

290 PRINT "THE TOTAL INTEREST  
PAID DURING THE PERIOD IS \$";I

300 LET V=(M/R)\*(1-(1+R)\*\*(N2-N))

310 PRINT ,,,,,,

330 PRINT "THE UNPAID PRINCIP  
AL BALANCE AFTER PAYMENT NUM  
BER";N2

350 PRINT "IS \$";V

360 PRINT ,,,,

370 PRINT

380 PRINT "WOULD YOU LIKE TO SOLVE ANOTHER PROBLEM?"

385 INPUT Z\$

390 IF Z\$(TO 1)="Y" THEN GOTO 148

395 CLS

400 PRINT

410 PRINT "THANK YOU. I HOPE I  
HAVE BEEN SOME HELP."

420 STOP

1100 PAUSE 1200

1105 CLS

1110 RETURN

1120 SAVE "LOAN STATUS"

1130 GOTO 1

Continued from page 6

If you have already begun selling your program, and you didn't put the copyright notice on, don't panic. The law allows you to correct the error at any time within five years after you began distributing the program. However, you will not be able to sue people who "innocently" infringed your copyright in the meantime.

JONATHAN D. WALLACE is our club's Attorney. He is a senior partner of one on the leading USA law firms.

#### SUBSCRIPTION RATES

FREE SUBSCRIPTION WITH PAID  
CCAT/S MEMBERSHIP-\$15.00/YR  
NON-MEMBER RATE - \$ 8.50/YR

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#### AD RATES

\*\*\*\*

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WITH MEMBERSHIP  
\$ .50 / LINE  
\$ 5.00 / 1/4 PAGE  
\$ 8.00 / 1/2 PAGE  
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ALL AD COPY MUST BE IN BY  
THE 10TH OF THE MONTH PRIOR  
TO THE MONTH AD IS TO RUN.

##### -8- #####

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